MARYLAND HISTORICAL TRUST
DETERMINATION OF ELIGIBILITY FORM

NR Eligible: yes X
no ___

Property Name: Hangar 144 Patuxent Naval Air Station Inventory Number: SM-620

Address: _____ City: Patuxent River Zip Code: 20670-5409

County: Saint Marys USGS Topographic Map: Solomons Island

Owner: U.S. Navy Is the property being evaluated a district? ___ yes

Tax Parcel Number: n/a Tax Map Number: n/a Tax Account ID Number: n/a

Project: Rehabilitation Agency: U.S.NAVY

Site visit by MHT staff: X no ___ yes Name: _____ Date: _____

Is the property is located within a historic district? ___ yes X no

If the property is within a district District Inventory Number: _____

NR-listed district ___ yes Eligible district ___ yes Name of District: _____

Preparer's Recommendation: Contributing resource ___ yes ___ no Non-contributing but eligible in another context ___ yes

If the property is not within a district (or the property is a district) Preparer's Recommendation: Eligible X yes ___ no

Criteria: X A ___ B X C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G ___ None

Documentation on the property/district is presented in:
National Register of Historic Places Multiple Property Documentation Form: Naval Air Station Patuxent River, Maryland; Historic and Architectural Resources; Final Draft, 1999. Berger & Assoc.

Description of Property and Eligibility Determination: *(Use continuation sheet if necessary and attach map and photo)*

During World War II, the Navy was tasked to study and eliminate radio frequency interference that plagued the Fleet at that time. The war had outstripped the capacity of electronic engineers and aircraft designers to maintain consistency of electronic equipment. At the very end of the war, plans were developed to construct a shielded hangar large enough to house the largest aircraft at NAS, a recently built Naval Air Station on the shores of the Chesapeake Bay. Construction of the shielded hangar began in early 1947, but because of scarce building supplies doe to the war effort, completion and occupancy was delayed until the middle of 1949.

Hangar 144 a T-shaped building consisting of a single main hangar section under a steel arch truss roof with a single web system and a rear "nose bay" section under a flat, steel truss roof. The main portion of the hangar is 374 feet wide by 158 feet deep, with a maximum ceiling height of sixty-six feet. The front of the hangar faces east and is equipped with sliding doors that open to the full width of the hangar bay. The exterior end walls of the hangar are wood framed and sheathed in Transite asbestos board. The Transite was covered over with corrugated metal siding about 1995. The lean-tos have concrete exterior walls and all of the pedestrian doors are flush steel replacement doors.

All interior surfaces of the hangar bay are lined with radio interference shielding that consists of galvanized-steel hardware cloth

MARYLAND HISTORICAL TRUST REVIEW

Eligibility recommended X **Eligibility not recommended** ___

Criteria: X A ___ B X C ___ D Considerations: ___ A ___ B ___ C ___ D ___ E ___ F ___ G ___ None

MHT Comments
Documentation reviewed by LLB, concurrence on eligbility in letter signed by JRL on 10/1/1999

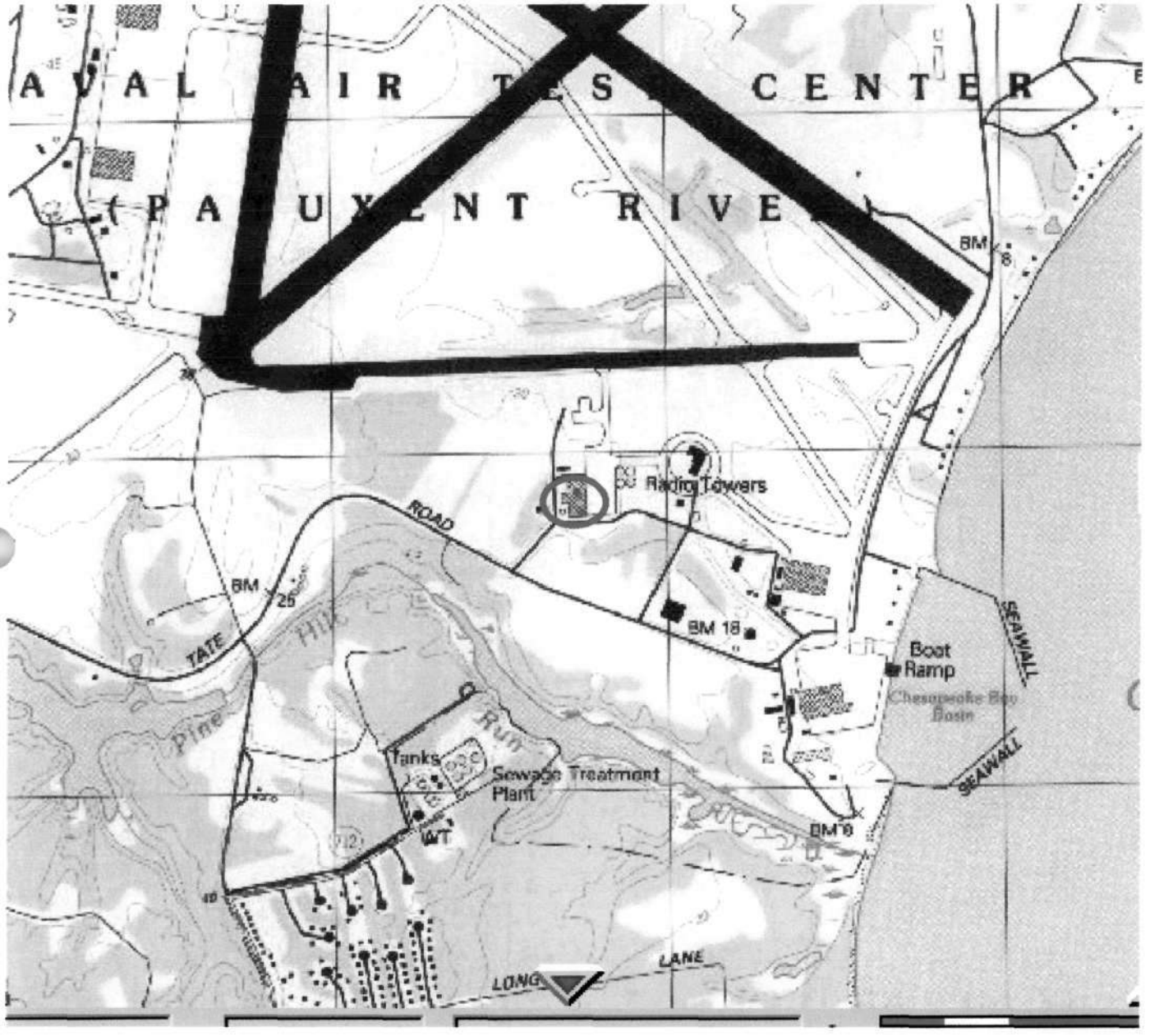
Reviewer, Office of Preservation Services	**Date**
J. Rodney Little	**October 01, 1999**
Reviewer, NR Program	**Date**

of eight meshes per inch, attached to wax-impregnated wood framing. All of the building's seams are soldered to ensure a continuity of the shield. A double layer of the shielding cloth is imbedded in the concrete floor. Originally, seven small shielded test laboratories were inside the lean-tos. All but two of these rooms have been removed during past renovations. The shielded labs were small, essentially freestanding, wood-framed rooms completely lined with copper sheeting. The two remaining rooms have been lined with paneling and are presently used as office space.

In compliance with Section 110 of the NHPA of 1966, as amended, Hangar 144 was examined in the project that evaluated all World War II, post-war, and cold War era facilities for historical/architectural significance and National Register eligibility. This context is documented in the National Register of Historic Places Multiple Property Documentation Form: Naval Air Station Patuxent River, Maryland, Historical and Architectural Resources, final draft 1999 prepared by Louis Berger and Associates, Inc., Cultural Resources Group. Within phase II of this project Hangar 144 was evaluated and found individually eligible for the National Register. Hangar 144 is an example of a uniquely engineered building, designed to carryout a highly specialized aircraft electronics testing program. The hangar meets Criteria A for its association with the primary mission of NAS during the early Cold War period. As the primary building and center of the Electronics Test Division program, the hangar is particularly illustrative of the research and testing activities conducted by the Division in these decades. The hangar also meets Criteria C in that it embodies distinctive characteristics of a type, period, and method of construction. Completed in 1949, the Electronics Test Shielded Hangar was the first of its kind and until 1956 remained the largest shielded hangar in the world. Both NAS and the Maryland State Historic Preservation Officer acknowledged this recommendation.

Prepared by: Louis Berger & Assoc., Inc Date Prepared: 06/06/1999

SM-620
Hangar 144
Patuxent Naval Air Station
Solomons Island USGS Quad



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NAVAL AIR STATION PATUXENT RIVER
ELECTRONICS TEST SHIELDED HANGAR 144

INDEX TO PHOTOGRAPHS

NAVAL AIR STATION PATUXENT RIVER
ELECTRONICS TEST SHIELDED HANGAR 144
St. Mary's County
Maryland

Photographer: Rob Tucher March 2000

1 EAST FACADE. LOOKING WEST.

2 EAST FACADE AND NORTH ELEVATION. LOOKING SOUTHWEST.

3 NORTH ELEVATION. LOOKING SOUTH.

4 SOUTH AND WEST ELEVATIONS. LOOKING NORTHEAST.

5 INTERIOR VIEW OF MAIN HANGAR SPACE, SHOWING SHIELDED MESH DOORS CLOSED, AND HANGAR DOORS MOSTLY CLOSED. LOOKING SOUTHEAST.

6 INTERIOR VIEW OF MAIN HANGAR SPACE SHOWING NOSE-BAY ROOM WITH DOOR CLOSED. LOOKING NORTHWEST.

7 DETAIL OF HANGAR ROOF SYSTEM AND CATWALK, SHOWING MAIN HANGAR SPACE THROUGH SHIELDING MESH.

8 DETAIL OF EXTERIOR WINDOW NEAR EAST SHIELDED ROOM. LOOKING SOUTH.

9 DETAIL OF NOSE-BAY ROOM WITH DOOR OPEN. LOOKING WEST.

10 DETAIL OF SHIELDING MESH LINING WEST WALL AND CEILING. LOOKING UP AND WEST.

11 HALLWAY OUTSIDE SHIELDED TEST ROOMS, SHOWING ORIGINAL FIRE SPRINKLER SYSTEM EQUIPMENT. LOOKING EAST.

12 WEST FACADE OF EAST SHIELDED ROOM. LOOKING EAST.

13 NORTH ELEVATION OF EAST SHIELDED ROOM AGAINST INTERIOR OF NORTH HANGAR WALL, SHOWING SOLDER POINTS AND COPPER SHEATHING. LOOKING WEST.

[redacted]

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14 SOUTH ELEVATION OF EAST SHIELDED ROOM, SHOWING SOLDER POINTS AND COPPER SHEATHING. LOOKING NORTHEAST.

15 DETAIL OF DOORWAY INTO SHIELDED ROOM AND INTERIOR OF TYPICAL HANGAR WINDOWS. LOOKING NORTH.

16 DETAIL OF EXTERIOR OF EAST SHIELDED ROOM. LOOKING EAST.

17 INTERIOR OF EAST SHIELDED ROOM. LOOKING WEST.

18 DETAIL OF DOOR HINGE, SOLDER JOINTS, AND COPPER STRIP. LOOKING NORTHWEST.

19 EAST FACADE AND SOUTH ELEVATION OF WEST SHIELDED ROOM. LOOKING NORTHWEST.

20 INTERIOR OF WEST SHIELDED ROOM. LOOKING NORTHEAST.

21 1969 aerial view. Original on file, Electronics Test Division, Naval Air Station Patuxent River, Maryland.

22 Circa-1960 view of west elevation. Looking east. Original on file, Electronics Test Division, Naval Air Station Patuxent River, Maryland.

23 Circa-1960 view of north and east elevations. Looking southwest. Original on file, Electronics Test Division, Naval Air Station Patuxent River, Maryland.

24 Circa-1960 view of south and west elevations. Looking northeast. Original on file, Electronics Test Division, Naval Air Station Patuxent River, Maryland.

25 1951 photograph of test bench. Original on file, Electronics Test Division, Naval Air Station Patuxent River, Maryland.

26 Bureau of Yards and Docks Drawing No. 430,383. "Electronics Test Hangar: Plan and Plot Plan." May 17, 1946. Original on file, Public Works Department, Naval Air Station Patuxent River, Maryland.

27 Bureau of Yards and Docks Drawing No. 430,384. "Electronics Test Hangar: Plans of Lean-Tos." May 17, 1946. Original on file, Public Works Department, Naval Air Station Patuxent River, Maryland.

28 Bureau of Yards and Docks Drawing No. 430,385. "Electronics Test Hangar: Elevations, Sections, and Roof Plan." May 17, 1946. Original on file, Public Works Department, Naval Air Station Patuxent River, Maryland.

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29 Bureau of Yards and Docks Drawing No. 430,386. "Electronics Test Hangar: Details of North & South Lean-Tos." May 17, 1946. Original on file, Public Works Department, Naval Air Station Patuxent River, Maryland.

30 Bureau of Yards and Docks Drawing No. 430,391. "Electronics Test Hangar: Elevation & Section of East Doors and Details of Shielded Rooms." May 17, 1946. Original on file, Public Works Department, Naval Air Station Patuxent River, Maryland.

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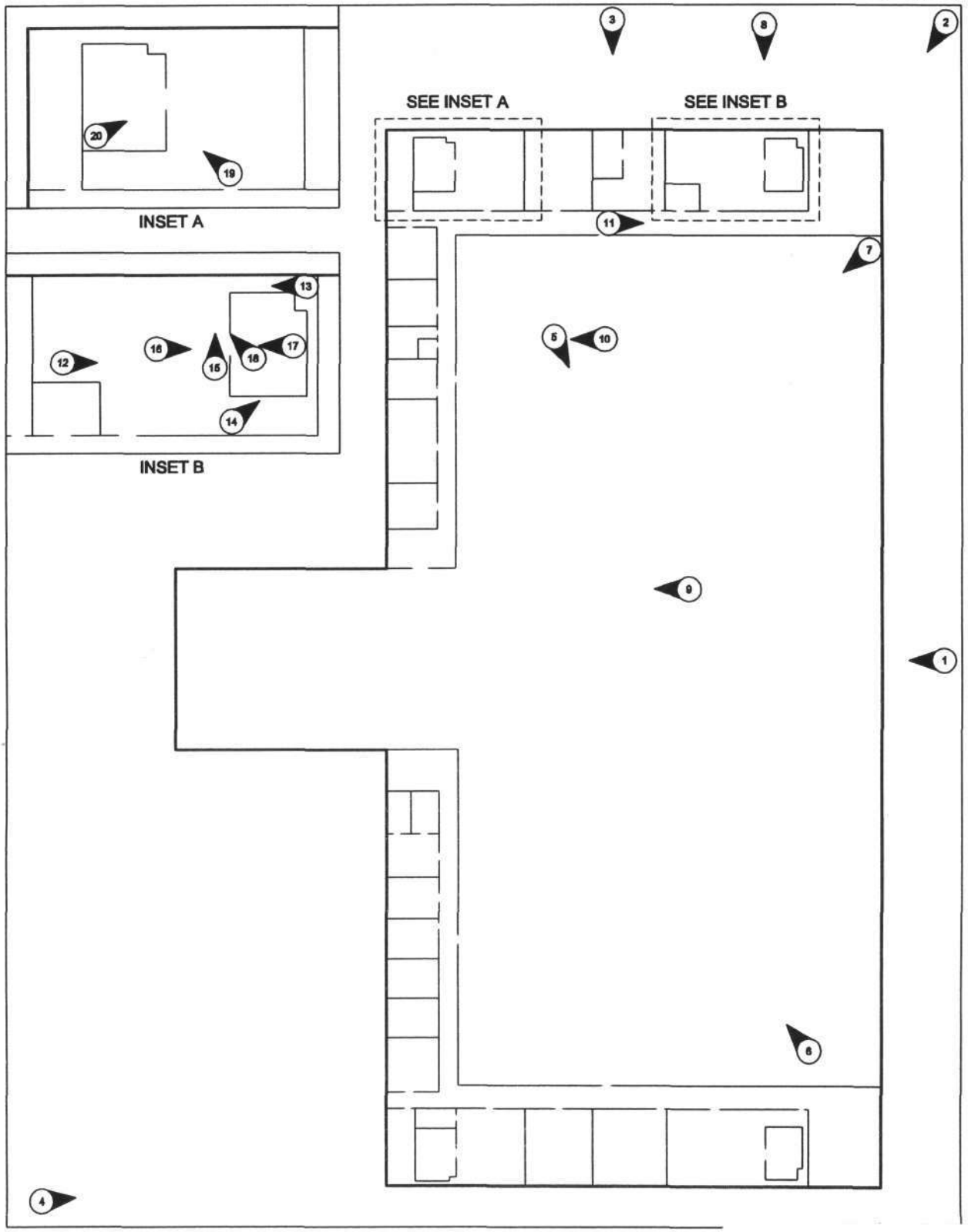
NAVAL AIR STATION PATUXENT RIVER
ELECTRONICS TEST SHIELDED HANGAR 144
Key to Photographs
(Page 4)



Enclosure 3B

NPS Form 10-900
(Rev. 10-90)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Electronics Test Shielded Hangar 144, NAS Patuxent River ~~SM-357~~ SM-620

other names/site number _____

2. Location

street & number _____ not for publication ____

city or town Naval Air Station Patuxent River vicinity X

state Maryland code MD county St. Mary's code 037 zip code 20670

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ____ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria. I recommend that this property be considered significant ____ nationally ____ statewide ____ locally.
(____ See continuation sheet for additional comments.)

_____ _____
Signature of certifying official Date

_____
State or Federal agency and bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.
(____ See continuation sheet for additional comments.)

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Signature of commenting or other official _____ Date _____

State or Federal agency and bureau _____

4. National Park Service Certification

I, hereby certify that this property is:

___ entered in the National Register _____ _____
___ See continuation sheet.
___ determined eligible for the National Register _____ _____
___ See continuation sheet.
___ determined not eligible for the National Register _____ _____

___ removed from the National Register _____ _____

___ other (explain): _____

_____ _____
Signature of Keeper Date of Action

5. Classification

Ownership of Property
(Check as many boxes as apply)
___ private
___ public-local
___ public-State
_X_ public-Federal

Category of Property
(Check only one box)
_X_ building(s)
___ district
___ site
___ structure
___ object

Number of Resources within Property

Contributing	Noncontributing	
1	____	buildings
____	____	sites
____	____	structures
____	____	objects
1	____	Total

Number of contributing resources previously listed in the National Register: 0

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.)

Naval Air Station Patuxent River, Maryland: Historic and Architectural Resources

6. Function or Use

Historic Functions (Enter categories from instructions)

Cat:	Sub:
DEFENSE	Naval facility

Current Functions (Enter categories from instructions)

Cat:	Sub:
DEFENSE	Naval facility

7. Description

Architectural Classification (Enter categories from instructions):

Other: 20th-Century military
20th-Century industrial

Materials (Enter categories from instructions)

foundation	Concrete
roof	Wood, asphalt
walls	Metal-steel, masonry, asbestos-panel, copper, steel wire mesh
other	

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

X	A	Property is associated with events that have made a significant contribution to the broad patterns of our history.
___	B	Property is associated with the lives of persons significant in our past.
X	C	Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
___	D	Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

___	A	owned by a religious institution or used for religious purposes.
___	B	removed from its original location.
___	C	a birthplace or a grave.
___	D	a cemetery.
___	E	a reconstructed building, object, or structure.
___	F	a commemorative property.
___	G	less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions):

Architecture
Engineering
Military
_____
_____
_____
_____
_____

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Period of Significance

1945-1965

Significant Dates

Significant Person (Complete if Criterion B is marked above)

N/A

Cultural Affiliation N/A

Architect/Builder U.S. Navy, Bureau of Yards and Docks

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

---

9. Major Bibliographical References

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)

___ preliminary determination of individual listing (36 CFR 67) has been requested.
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # _____
___ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data

_X_ State Historic Preservation Office
___ Other State agency
_X_ Federal agency
___ Local government
___ University
___ Other

Name of repository Naval Air Station Patuxent River, Maryland, Public Works Office

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10. Geographical Data

Acreage of Property: 1 acre

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing		Zone	Easting	Northing
1	18	376740	4236860	3			
2				4			

____ See continuation sheet.

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

See Continuation Sheet

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

See Continuation Sheet

11. Form Prepared By

name/title Richard M. Casella

organization The Louis Berger Group, Inc. date May 1999

street & number 120 Halsted Street telephone 973-678-3427

city or town East Orange state NJ zip code 07019

Additional Documentation

(Submit the following items with the completed form:)

Continuation Sheets

Maps: A USGS map (7.5 or 15 minute series) indicating the property's location.
A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs: Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)

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USDI/NPS NRHP Registration Form
Electronics Test Shielded Hanger 144, NAS Patuxent River
St. Mary's County, Maryland

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name Naval Air Station Patuxent River

street & number _____ telephone _____

city or town Patuxent River state MD zip code 20670

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

DESCRIPTION

The Electronics Test Hangar is a T-shaped building consisting of a single main hangar section under a steel arch truss roof with a single web system and a rear "nose-bay" section under a flat steel truss roof. The main portion of the hangar is 374 feet wide by 158 feet deep, with a maximum ceiling height of 66 feet. The front of the hangar faces east and is equipped with sliding doors that open to the full width (300 feet) of the hangar bay. A large concrete apron in front of the hangar connects it to Taxiways P and Q, which in turn lead to the Air Station's runways.

The nose-bay section measures 65 feet wide by 100 feet deep. It was built to accommodate the noses of large planes, but was converted to an anechoic test chamber circa 1983 that can accommodate most of today's fighter jets. Two-story, concrete, lean-to structures are located down each side of the building, serving the dual purpose of restraining the thrust of the arches by gravity and providing useful office space, work rooms, and test laboratories.

All interior surfaces of the hangar bay are lined with radio interference shielding, which consists of galvanized-steel hardware cloth of eight meshes per inch, attached to wax-impregnated wood framing. All of the building's seams are soldered to ensure a continuity of the shield. A double layer of the shielding cloth is imbedded in the concrete floor. All penetrations of the shielding for pipes, wires, lighting fixtures, etc., are wrapped tightly with shielding. The sliding hangar doors and pedestrian doors between the lean-tos and the hangar bay are fitted with copper leaf-type seals that interlock to prevent radiation leakage.

Besides the usual shops and offices in the lean-tos, there were originally seven small shielded test laboratories. All but two of these rooms have been removed during past renovations. The shielded labs were small, essentially freestanding, wood-framed rooms, completely lined with copper sheeting. The two remaining rooms have been lined with paneling and are presently used as office space.

The hangar bay has two sets of doors, one weather set and one shielded set immediately behind. Both sets of doors are 35 feet high and have 10 leaves, each 30 feet wide. The doors are drawn open electrically and store, five leaves on each side, in concrete pockets located at the ends of the lean-tos. Above the two center sliding doors is a top-hinged canopy door, also called the tail door, which measures 60 feet wide and 35 feet high, is lined with shielding mesh, and opens by swinging in and up against the ceiling of the hangar. As the name implies, the tail door is designed to accommodate the high tail of large planes. The shielded doors are of wood construction covered with the same mesh that lines the hangar bay.

The exterior end walls of the hangar are wood framed and sheathed in Transite asbestos board. The Transite was covered over with corrugated metal siding about 1995. The lean-tos have concrete exterior walls and retain most of the original metal frame, industrial, tilt-sash windows. All of the pedestrian doors are flush steel replacement doors.

SIGNIFICANCE SUMMARY

Evaluation of the Electronics Test Shielded Hangar 144 for National Register eligibility is based upon criteria outlined in the National Register of Historic Places Multiple Property Documentation Form *Naval Air Station, Patuxent River, Maryland, Historic and Architectural Resources* under the property type "Testing Facilities." The hangar is significant under the historic context *Naval Air Station, Patuxent River and Webster Field During the Early Cold War Period, 1945-1965,* as defined in the Multiple Property Documentation study.

Electronics Test Shielded Hangar 144 is an example of a uniquely engineered building, designed to carry out a highly specialized aircraft electronics testing program. Commonly called the "noise hangar," it was electronically shielded to exclude all external electronic or electrical interference so as to facilitate the evaluation of electronic equipment installed in aircraft. The hangar meets National Register Criterion A for its association with the primary mission of NAS Patuxent River during the early Cold War period. As the primary building and center of the Electronics Test Division program, the hangar is particularly illustrative of the research and testing activities conducted by the Division in these decades. It also meets National Register Criterion C in that it embodies distinctive characteristics of a type, period, and method of construction. Completed in 1949, the Electronics Test Shielded Hangar 144 was the first of its kind and until 1956 remained the largest shielded hangar in the world.

RESOURCE HISTORY AND HISTORIC CONTEXT

The Electronics Test Shielded Hangar 144 was built and designed by the U.S. Navy's Bureau of Yards and Docks, Planning and Design Department, under the direction of Robert E. Hiles, project manager. Captain Ira P. Griffin served as the Navy's Officer in Charge of Construction. Plans and specifications for the building were ready in early 1946 and the contract was let that June, but construction of the building was not completed until early 1949. Progress had been delayed considerably during 1947 as a result of the nationwide shortage of steel occasioned by the great steelworkers' strike that took place that year.

Two contracts, for a total of $2,000,000, were awarded for the construction of the hangar. The site work, including the parking apron, runways, and access roads, was completed by J. C. Langenfelder & Son of Baltimore, Maryland, for the sum of $400,000. The Tuller Construction Company of Red Bank, New Jersey, was awarded the $1,600,000 contract for construction of the hangar itself. Tuller subcontracted the structural steel work to the American Bridge Company of Pittsburgh, Pennsylvania. The shielding of the hangar, which involved a complex installation of uninterrupted, ⅛-inch, steel wire mesh along the inside surfaces of the hangar, was subcontracted to Lewis & McDowell, Inc., of New York City. Lewis & McDowell hired General Electric and Westinghouse Electric to consultant on the shielding installation and determine the most efficient means to accomplish the 17 miles of soldering required to join the sections of steel mesh (Grupp 1947:41-42).

Steel mesh was chosen instead of solid sheets of steel or copper because of its cost and its ventilation properties. To limit breaks in the shielding, windows were eliminated from the design. Bronze spring contacts were installed at all

door openings to maintain shield continuity when the doors were closed. The mesh was attached with special staples to two-by-four wood nailing strips which were impregnated with paraffin to prevent electrical conductivity from moisture absorption. Two layers of mesh, sealed in an asphalt tack coat and separated by a four-inch-thick mixture of sand, gravel, and asphalt, were imbedded in the hangar's concrete floor. All pipe and conduit penetrations of the shield, such as the sprinkler heads, were electrically bonded to the shield. The initial test projects conducted upon completion of the noise hangar confirmed that the accuracy of interference evaluations undertaken within it far exceeded the accuracy of those conducted in previous ground or flight evaluation (Grupp 1947:41-42; Naval Historical Center 1947:8, 1949:1/15-16, 1950:14).

The Electronics Test Division (designated Radio Test Division at the time) was established at NAS Patuxent River in July 1943 when it was moved from NAS Anacostia. During World War II, the mission of "Radio Test," the evaluation and improvement of radio communications and radar technology, was a top priority for the Allies. The Radio Test Division was redesignated Electronics Test on June 16, 1945.

The experience of Electronics Test in World War II revealed the need for an electronically shielded hangar. The tremendous expansion in the range and quantity of aircraft electronic equipment during World War II had outstripped the capacity of electronic engineers and aircraft designers to maintain consistency of operation in a given aircraft's complement of electronic equipment. It was soon discovered that the operation of powerful electronic devices in close proximity to one another, as in an airplane cockpit, was resulting in unacceptable or dangerous interference or "noise." The science and technology of electromagnetic shielding had yet to be developed. Before interference tests could be conducted on aircraft and their electronic equipment, it was necessary to create an environment in which additional interference was absent. Proper operational analysis of equipment mounted in planes had not been previously possible because of electromagnetic interference from industrial, atmospheric, and other electronic sources, such as radio and television broadcasting. The Bureau of Aeronautics, therefore, decided to construct a shielded hangar for Electronics Test in which electronic equipment on aircraft could be tested in a situation free from external interference. The interference coming from the aircraft's other electronic equipment and electrical machinery, such as the ignition system, could then be evaluated (NATC-NAS Patuxent River Public Affairs Office 1949:16; Naval Historical Center 1949:1/15-16).

The post-war years saw a major expansion at Electronics Test Division in terms of activity, personnel, and facilities, in response to the ever-growing importance of electronics technology in relation to aircraft technology overall. Between 1943 and 1951, the portion of the total cost of the average naval aircraft represented by the cost of its electrical and electronics equipment increased nearly four-fold.

The All-Weather Aids Department was established within the Division in September 1948, incorporating organizations transferred from other installations and redesignated the Navy Air Navigation Electronics Project. The Navigational Aids, Airport Lighting, and Special Devices sections of Electronics Test Division were also consolidated in the All-Weather Aids Department. The four sections of the new department evaluated all types of navigational and landing aid systems in trials conducted both on the ground and in the air. By 1951, Electronics Test Division was conducting more

than half of the total projects undertaken at the Naval Air Test Center (NATC). The Division employed 37 officers, 264 enlisted men, and 448 civilians, which was more civilians than the other test divisions combined (*Naval Aviation News* 1951:1-5; Naval Historical Center 1945:52-59).

MARYLAND COMPREHENSIVE PRESERVATION PLAN DATA

Geographic Organization: Western Shore

Chronological/Developmental Period(s): Modern Period

Prehistoric/Historic Period Theme(s): Military

Resource Type:

Category: Building

Historic Environment: Suburban

Historic Function(s) and Use(s): Military Facility

Known Design Source: U.S. Navy, Bureau of Yards and Docks

MAJOR BIBLIOGRAPHICAL REFERENCES

Grupp, George W.
1947 Static-Proof Testing Hangar for Navy. *The Constructor* August:41-42.

Louis Berger & Associates, Inc.
1999 *Naval Air Station Patuxent River, Maryland, Historic and Architectural Resources*. National Register of Historic Places Multiple Property Documentation Form (draft final). Prepared for Naval Air Station Patuxent River, Maryland, by Louis Berger & Associates, Inc., East Orange, New Jersey.

Naval Aviation News
1945 Patuxent Tests. May 1:23-34.

1951 Electronics Test. May:1-5.

NAS Patuxent River Public Works Department
various *Map of Naval Air Station, Patuxent River, Md., Showing Conditions on . . .* [various dates, 1941-present]. Plans on file, Public Works Department, Naval Air Station Patuxent River, Maryland.

various *Facility Record Cards and Building Drawings, Naval Air Station, Patuxent River, Md.* Records and drawings on file, Drawing Vault, Public Works Department, Naval Air Station Patuxent River, Maryland.

NATC-NAS Patuxent River Public Affairs Office
1949 NATC-NAS Patuxent River, Maryland, Yearbook. On file, Public Affairs Office, Naval Air Test Center, Naval Air Station Patuxent River, Maryland.

Naval Historical Center
1945 *Naval Air Station Patuxent River Command History, 1942-45*. Prepared October 1945. On file, Office of Naval Aviation History, Naval Historical Center, Washington Navy Yard, Washington, D.C.

various *U.S. Naval Air Test Center-NAS Patuxent River Command Histories* [various dates]. On file, Office of Naval Aviation History, Naval Historical Center, Washington Navy Yard, Washington, D.C.

U.S. Geological Survey
1987 *Solomons Island, MD.* 7.5-Minute Series (Topographic) Quadrangle. U.S. Geological Survey, Reston, Virginia.

GEOGRAPHICAL DATA

Verbal Boundary Description

The National Register boundaries for the Electronics Test Shielded Hangar 144 are depicted on the attached figure.

Boundary Justification

These boundaries encompass the entire area within which the Electronics Test Shielded Hangar 144 operated during its period of significance.

The following items apply to all 18 photographs:

Property Name: Electronics Test Shielded Hangar 144, Naval Air Station Patuxent River

Location: NAS Patuxent River, St. Mary's County, Maryland

Photographer: Rob Tucher

Date of Photograph: 2000

Location of Negatives: NAS Patuxent River, Patuxent River, Maryland 20670

Individual Photograph Identifications:

1 East facade, looking west

2 East facade and north elevation, looking southwest

3 North elevation, looking south

4 South and west elevations, looking northeast

5 Interior view of main hangar space, showing shielded mesh doors closed and hangar doors mostly closed, looking southeast

6 Interior view of main hangar space, showing nose-bay room with door closed, looking northwest

7 Detail of hangar roof system and catwalk, showing main hangar space through shielding mesh

8 Detail of exterior window near east shielded room, looking south

9 Detail of nose-bay room with door open, looking west

10 Detail of shielding mesh lining west wall and ceiling, looking up and west

11 Hallway outside shielded test rooms, showing original fire sprinkler system equipment, looking east

Individual Photograph Identifications (continued):

12 North elevation of east shielded room against interior of north hangar wall, showing solder points and copper sheathing, looking west

13 South elevation of east shielded room, showing solder points and copper sheathing, looking northeast

14 Detail of doorway into shielded room and interior of typical hangar windows, looking north

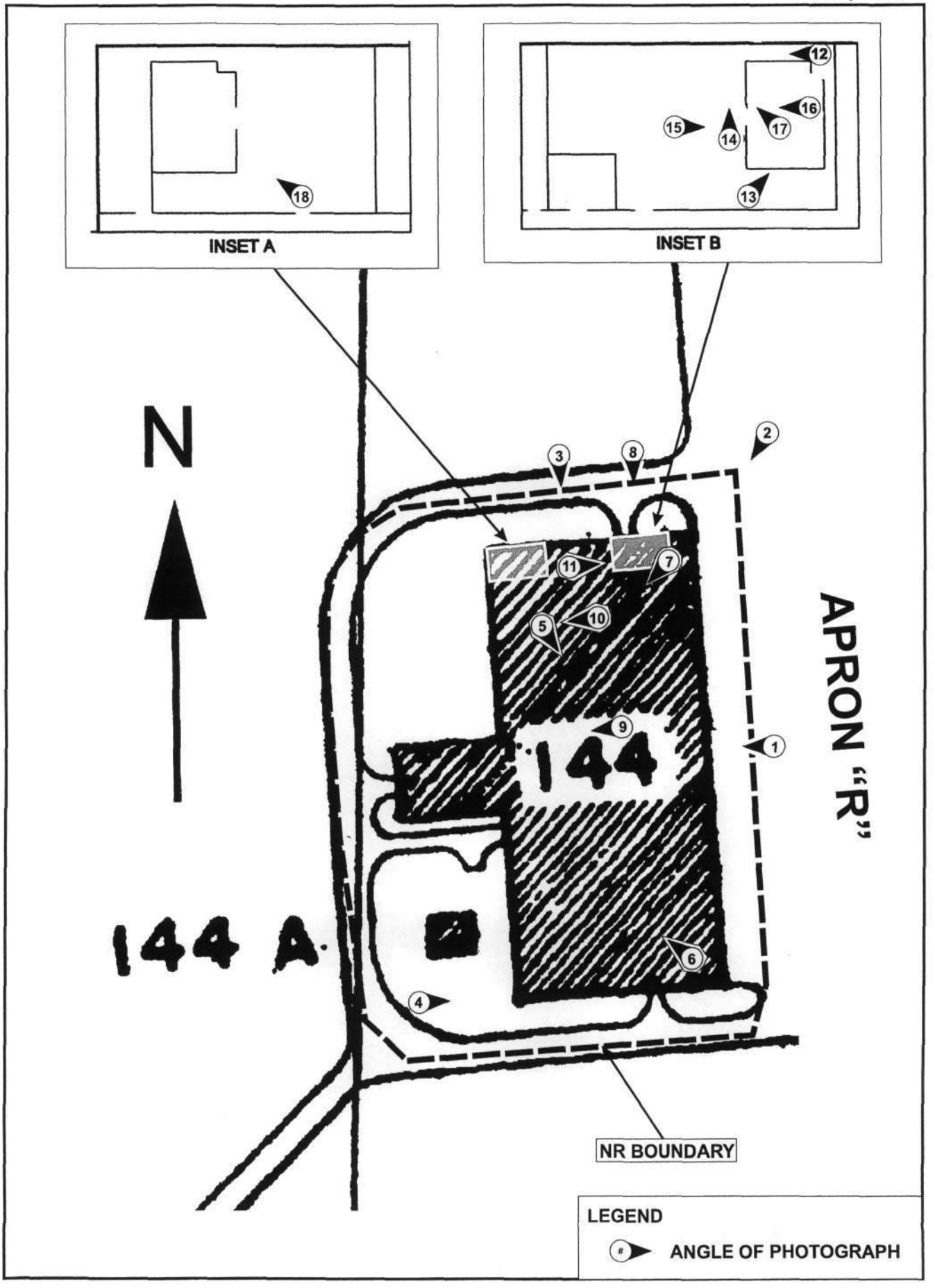
15 Detail of exterior of east shielded room, looking east

16 Interior of east shielded room, looking west

17 Detail of door hinge, solder joints, and copper strip, looking northwest

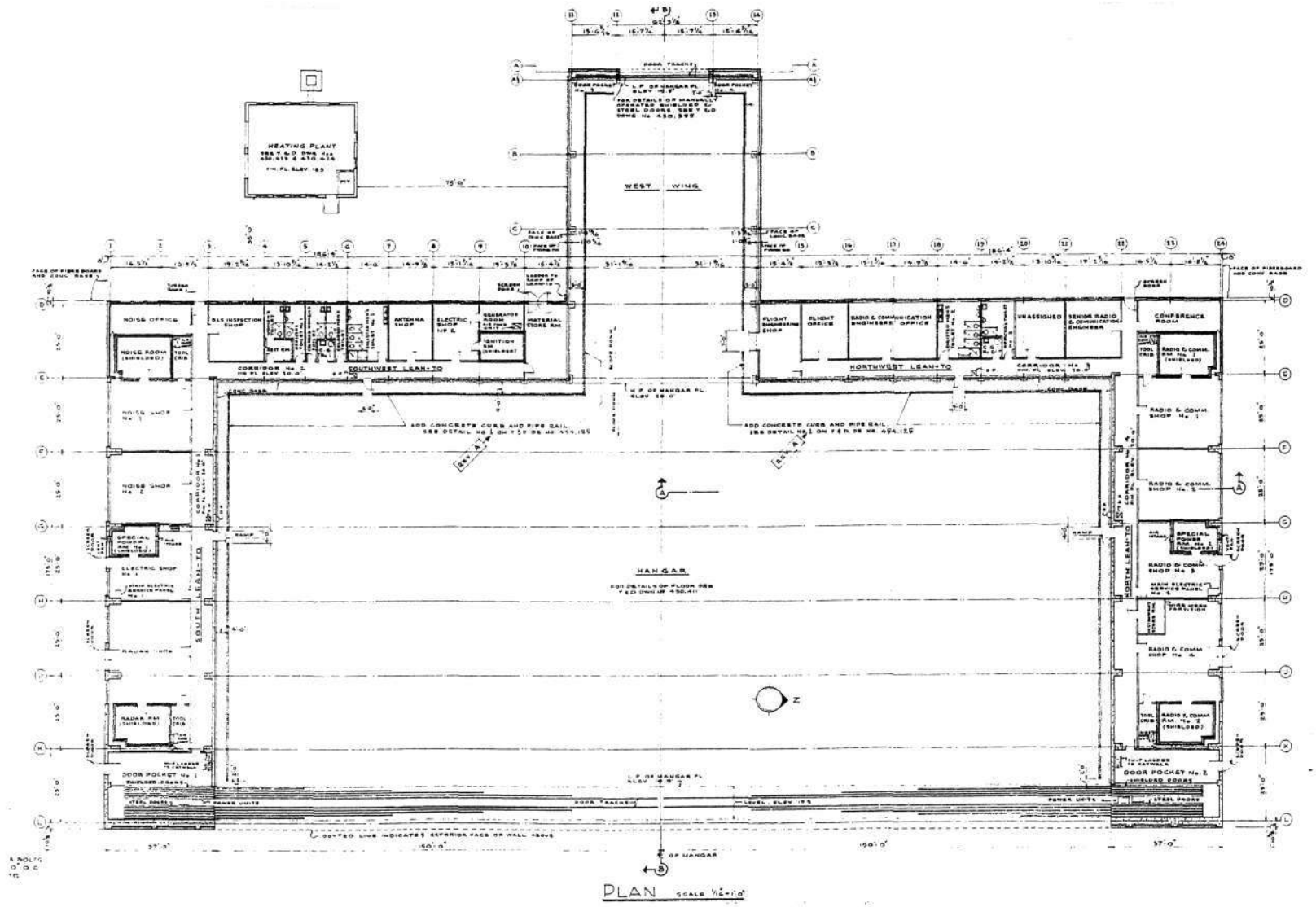
18 East facade and south elevation of west shielded room, looking northwest

SM-620



Site Plan, National Register Boundary, and Key to Photographs for Electronics Test Shielded Hangar 144

SOURCE: NAS Patuxent River Public Works Dept. 1995

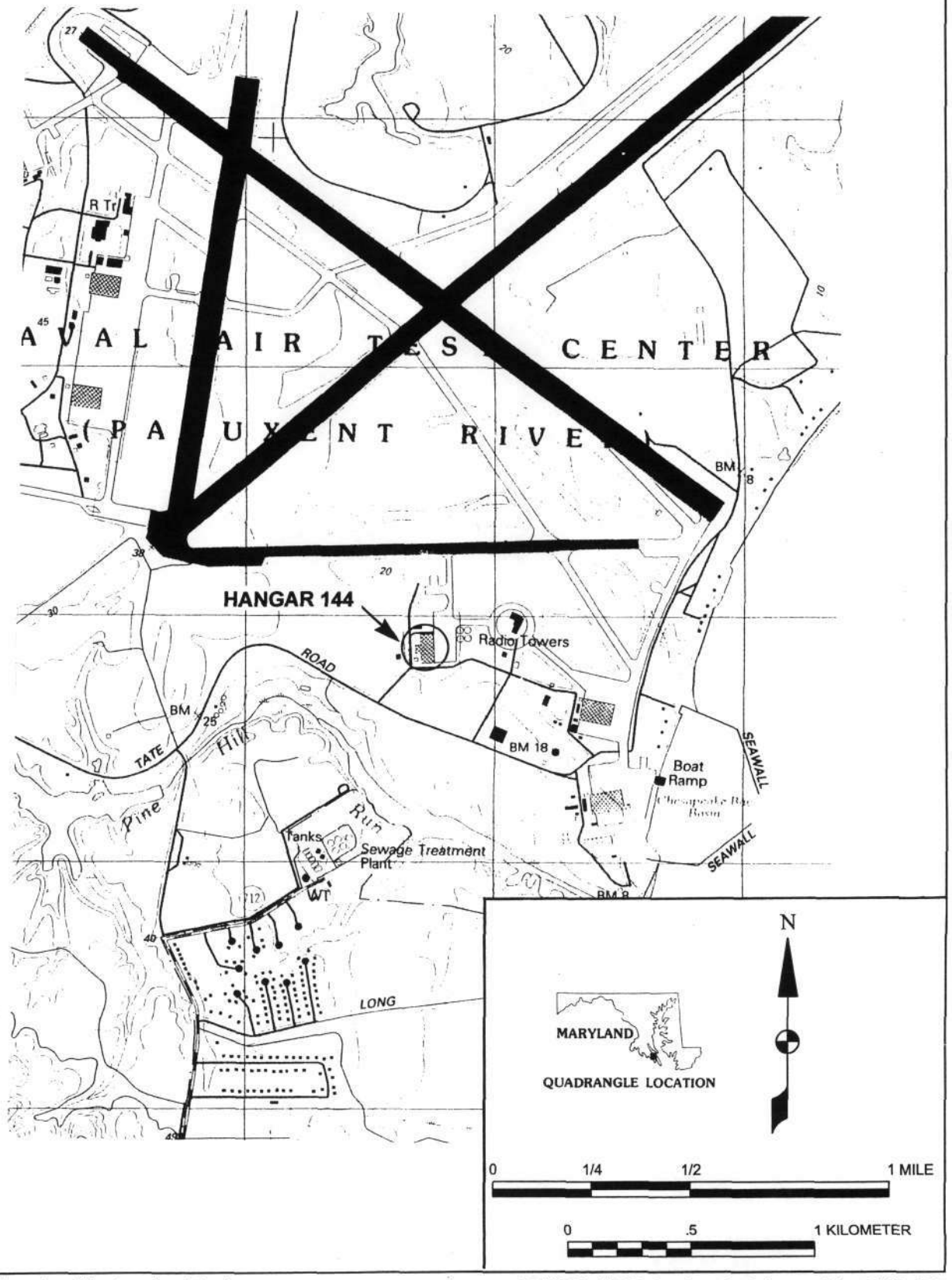


Floor Plan of Electronics Test Shielded Hangar 144 in 1946

SOURCE: NAS Patuxent River Public Works Dept., 1946

SM-0-20

SM-620



Location Map for Electronics Test Shielded Hangar 144

SOURCE: USGS Quadrangle, Solomons Island, MD 1987

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
East facade. Looking west.
1 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
East facade and north elevation. Looking southwest.
2 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
North elevation. Looking South
3 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
South and west elevations. Looking northeast.
4 of 30

MIHP No. SM-620

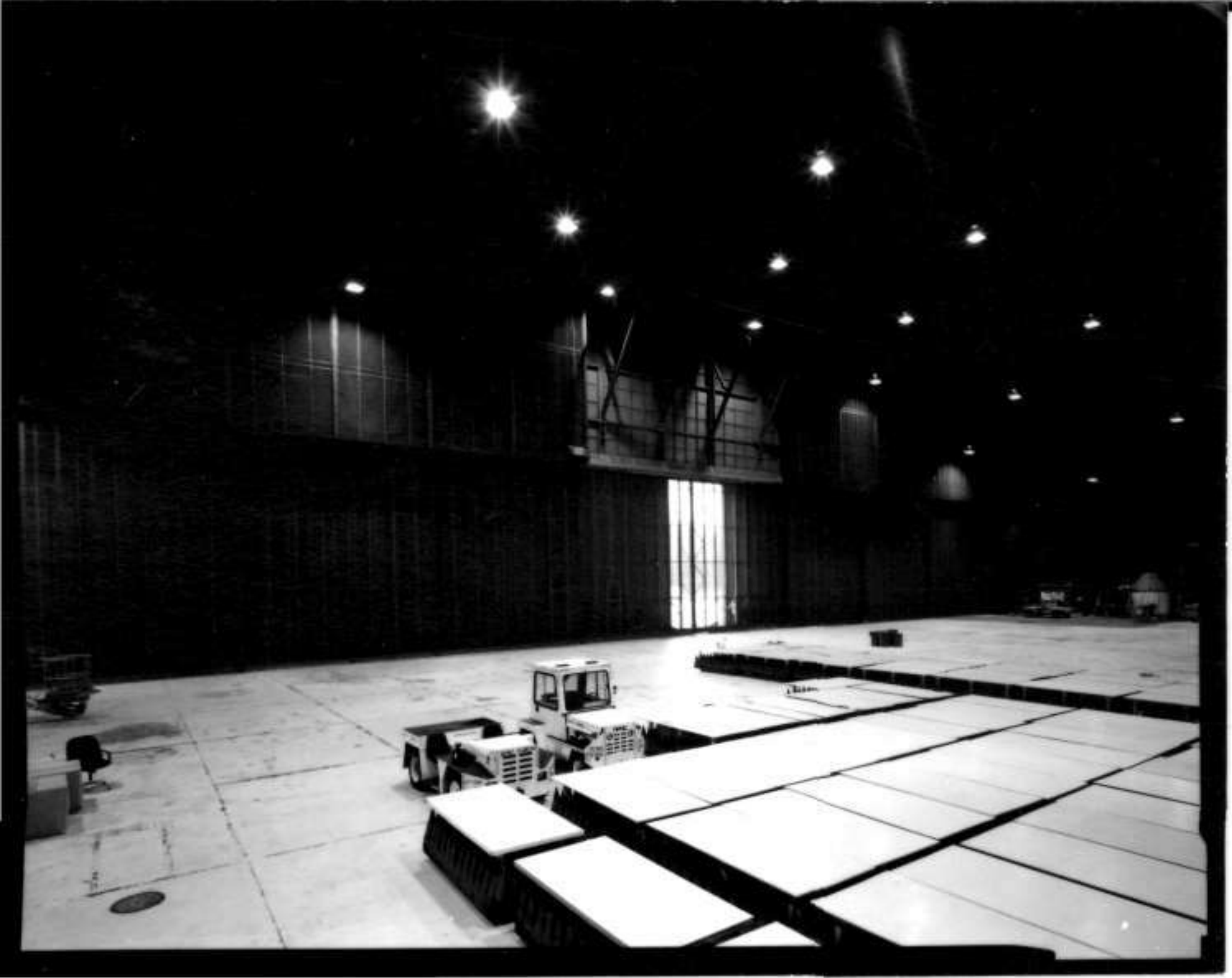
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland

Rob Tucher, March 2000

Negative @ NAS Patuxent River, Patuxent River, Maryland

Interior view of main hangar space, showing shielded mesh doors closed, and hangar doors mostly closed. Looking Southeast.

5 of 30



MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Interior view of main hangar space showing nose-bay
room with door closed. Looking northwest
6 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Detail of hangar roof system and catwalk, showing
main hangar space through shielding mesh.

7 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Detail of exterior window near east shielded room.
Looking South.

8 of 30

MIHP No. SM-620

Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland

Rob Tucher, March 2000

Negative @ NAS Patuxent River, Patuxent River, Maryland

Detail of nose-bay room with door open. Looking west.

9 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Detail of shielding mesh lining west wall and ceiling.
Looking up and west.

10 of 30

MIHP No SM-620

Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland

Rob Tucher, March 2000

Negative @ NAS Patuxent River, Patuxent River, Maryland

Hallway outside shielded test rooms, showing original fire sprinkler system equipment. Looking east.

11 of 30

MIHP No. SM-620

Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
West facade of east shielded room. Looking east

12 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
North elevation of east shielded room against interior of north hangar wall, showing solder points and copper sheathing. Looking west.
13 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
South elevation of east shielded room, showing solder
Points and copper sheathing. Looking northeast.
14 of 30

MIHP No. SM-620

Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River

St. Mary's County, Maryland

Rob Tucher, March 2000

Negtive @NAS Patuxent River, Patuxeat River, Maryland

Detail of doorway into shielded room and interior of typical hangar windows. Looking north.

15 of 30


105
105-S

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Detail of exterior of east shielded room.
Looking east.

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STEP DOWN

MIHP No. SM-620

Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Interior of east shielded room. Looking west.

17 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Detail of door hinge, solder joints, and copper strip.
Looking northwest
18 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
East facade and south elevation of west shielded room.
Looking northwest.

19 of 30


EXIT

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Interior of west shielded room. Looking northeast

20 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
1969 aerial view. Original on file, Electronics Test
Division, NAS Patuxent River, Maryland.
21 of 30


INTERFERENCE W S.T. TEST LABORATORY

MHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Circa-1960 view of west elevation. Looking east
Original on file, Electronics Test Division,
NAS Patuxent River, Maryland

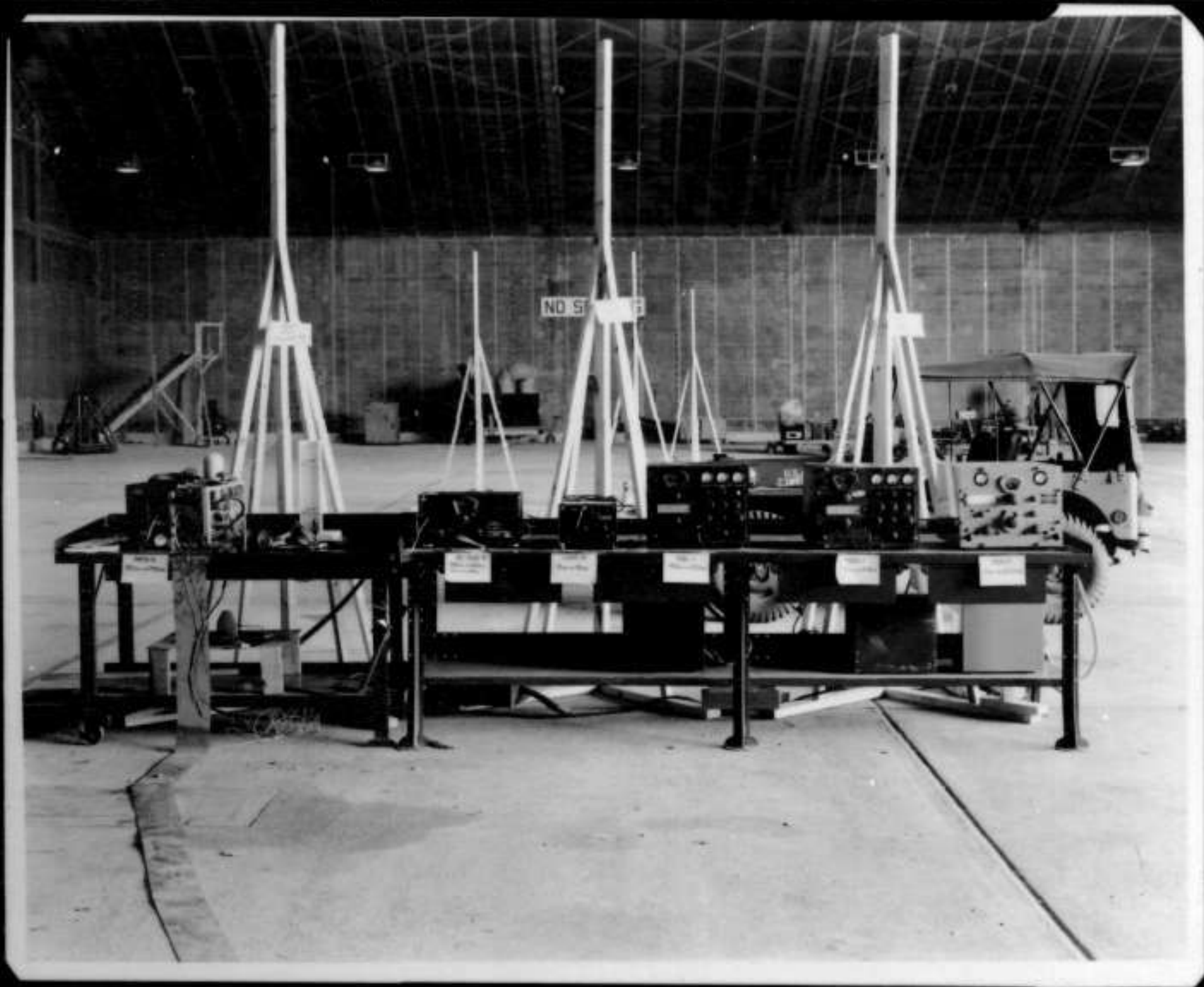
22 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Circa-1960 view of north and east elevations. Looking southwest. Original on file, Electronics Test Division, Naval Air Station Patuxent River, Maryland

23 of 30

MIHP No. SM-620
Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative@NAS Patuxent River, Patuxent River, Maryland
Circa-1960 view of south and west elevations. Looking
northeast. Original on file, Electronics Test Division,
Naval Air Station Patuxent River, Maryland

24 of 30

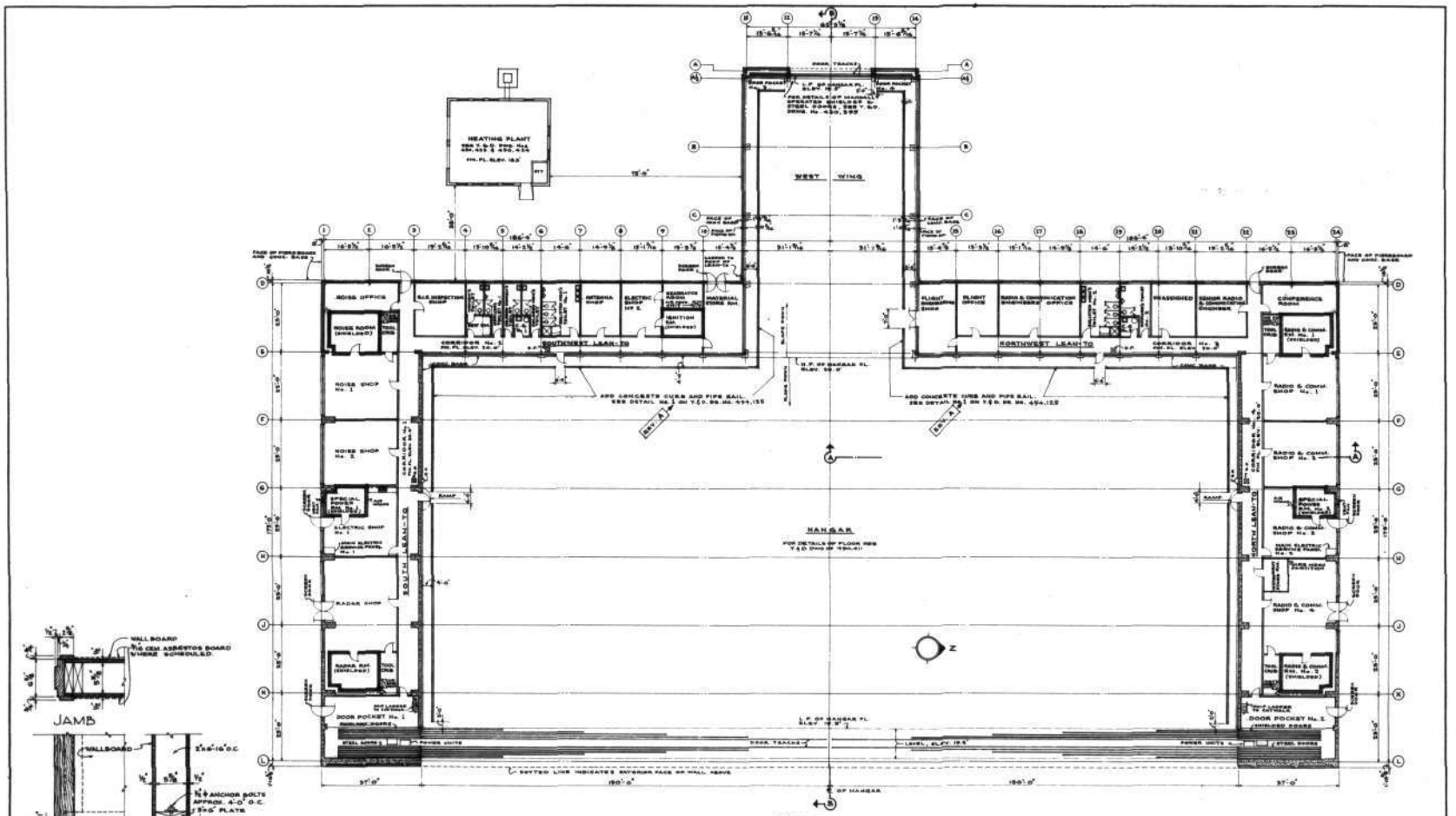


MIHP No. SM-620

Electronics Test Shielded Hangar 144,
Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland

1951 photograph of test branch. Original on file, Electronics Test Division, Naval Air Station Patuxent River, Maryland

25 of 30



ELEVATION SECTION

TYPICAL INTERIOR DOOR FRAME

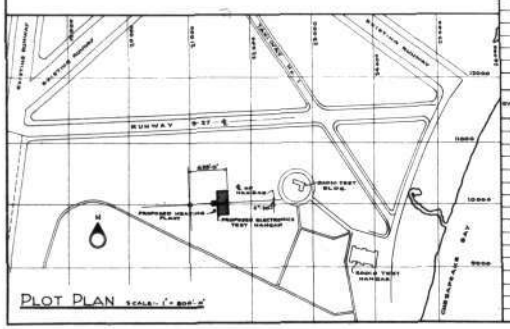
SCALE: 1½" = 1'-0"

SCHEDULE OF ROOM FINISHES

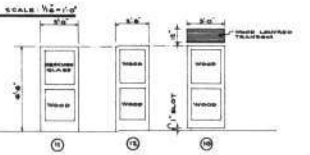
SYMBOL	FLOOR	BASE	PARTITION	WAINSCOT	CEILING	REMARKS
A						
B	"	"	"			
C	"	"	"	"		
D	"	"	COPPER		COPPER	

DOOR SCHEDULE

SYMBOL	TYPE	MATERIAL	DIMENSIONS OF DOOR WIDTH	HEIGHT	THICKNESS	FRAME	SEE Y. & D. DRWG. No.
1	SPECIAL						430,398
2	SPECIAL						430,398
3	SPECIAL						430,398
4	SPECIAL						430,398
5	SPECIAL						430,398
6	SPECIAL						430,398
7	SPECIAL						430,398
8	SPECIAL						430,398
9	SHIELD	WOOD	3'-0"	6'-8"	1¾"	WOOD	SEE DETAIL ON THIS SHEET
10	SHIELD	WOOD	3'-0"	6'-8"	1¾"	WOOD	SEE DETAIL ON THIS SHEET
11	SHIELD	WOOD	3'-0"	6'-8"	1¾"	WOOD	SEE DETAIL ON THIS SHEET
12	SPECIAL						430,398
13	SPECIAL						430,398

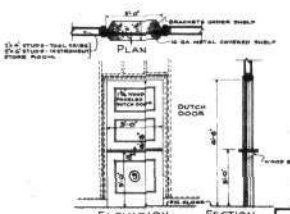


PLOT PLAN SCALE: 1" = 800'-0"



TYPICAL INTERIOR DOORS SCALE: ½"=1'-0"

INTERIOR DOORS ARE 1¾" THICK UNLESS OTHERWISE NOTED.



DOOR No. 9 (DUTCH DOOR) SCALE: ½"=1'-0"

APPROVED BY THE BUREAU OF AERONAUTICS

Revised	Approved	Brief	By

NAVY DEPARTMENT BUREAU OF YARDS & DOCKS

NAVAL AIR TEST CENTER
PATUXENT RIVER, MD.

ELECTRONICS TEST HANGAR

PLAN AND PLOT PLAN

Approved MAY 17, 1940. Y. & D. Drawing No. 430,383

For Chief of Bureau

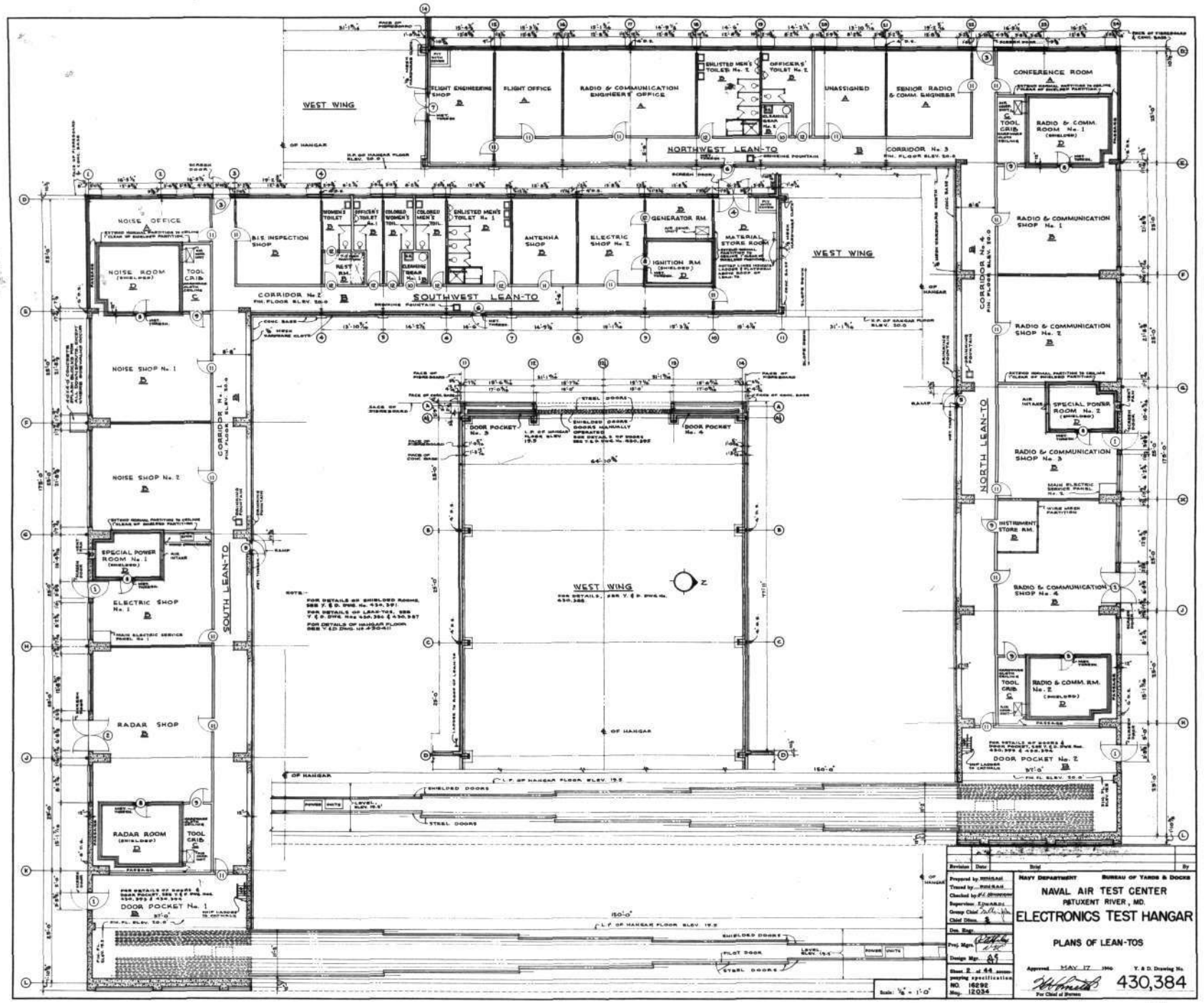
Scale: As Noted

114

115 1101

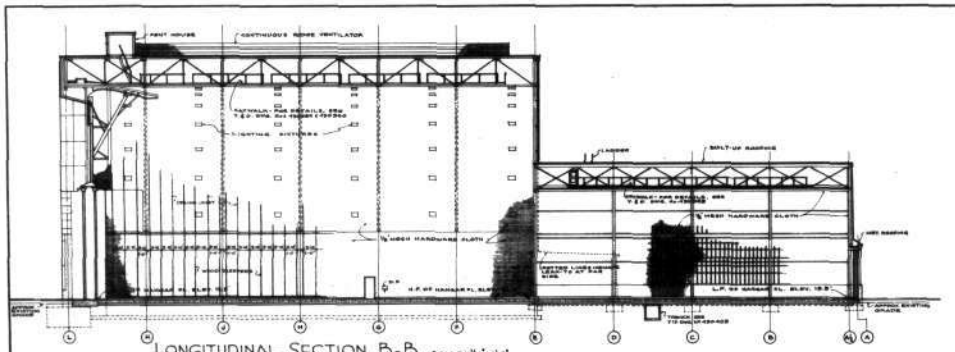
MIHP No. SM-620
Electronics Test Shielded Hangar 144, Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Bureau of Yards and Docks Drawing No. 430,383. "Electronics Test Hangar: Plan and Plot Plan." May 17, 1946. Original on file, Public Works Department, NAS Patuxent River, Maryland.

26 of 30

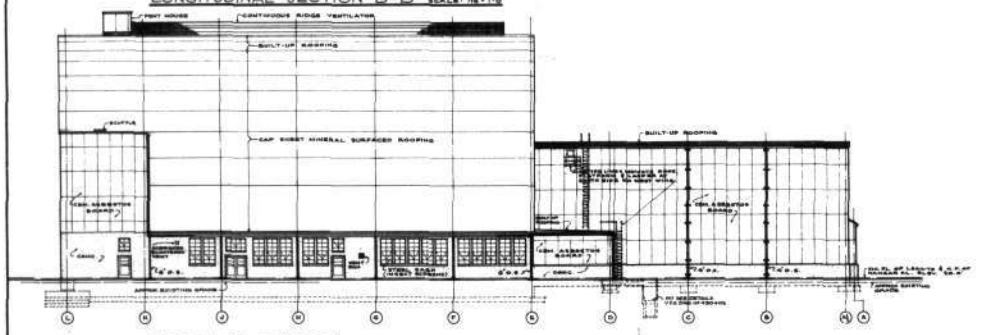


515-45-495 144

MIHP No. SM-620
Electronics Test Shielded Hangar 144, Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Bureau of Yards and Docks Drawing No. 430,384. "Electronics Test Hangar: Plans of Lean-Tos." May 17, 1946. Original on file, Public Works Department, Naval Air Station Patuxent River, Maryland.
27 of 30

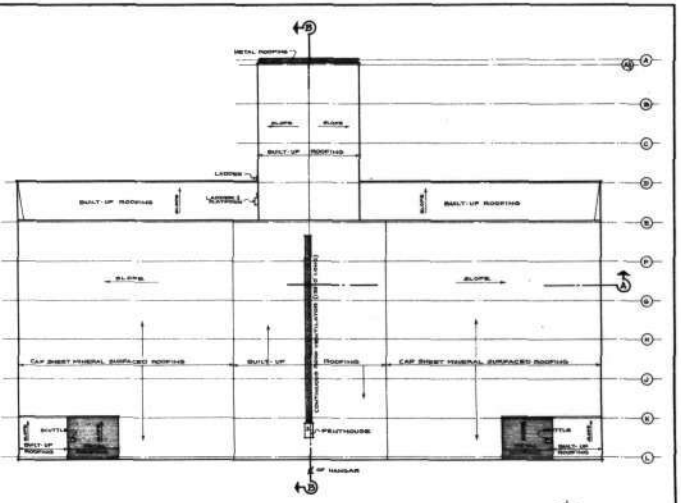


LONGITUDINAL SECTION B-B SCALE: 1/16" = 1'-0"

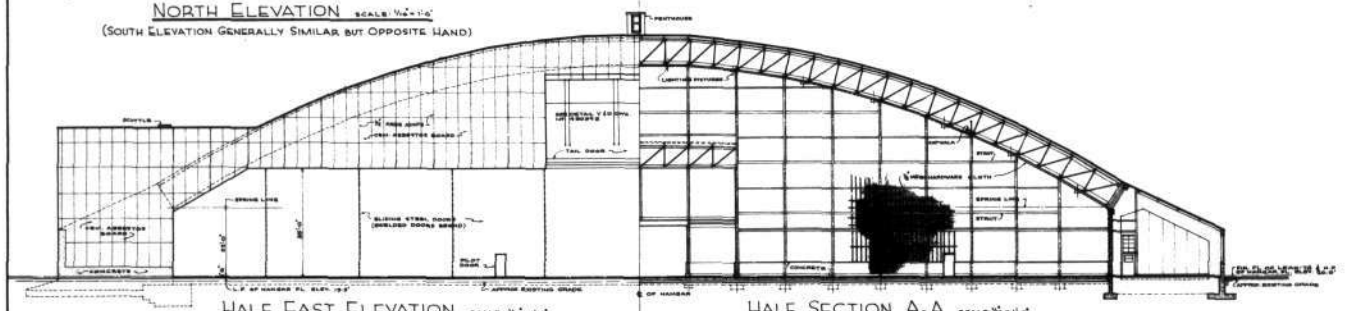


NORTH ELEVATION SCALE: 1/16" = 1'-0"

(SOUTH ELEVATION GENERALLY SIMILAR, BUT OPPOSITE HAND)

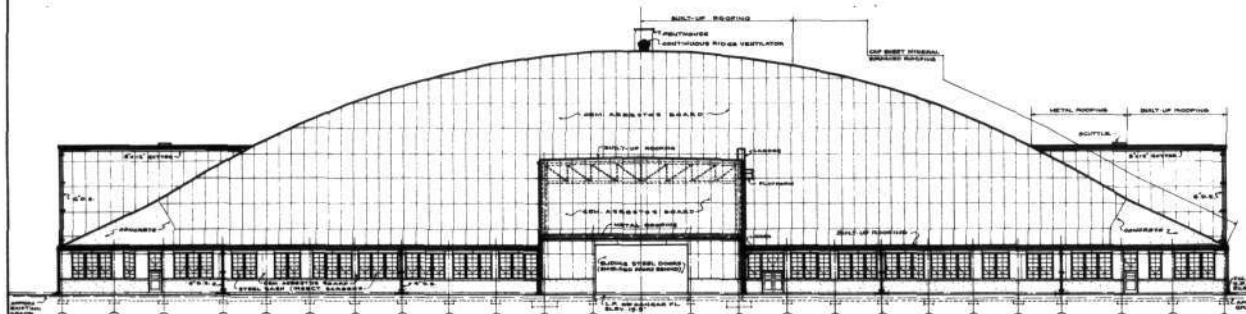


ROOF PLAN SCALE: 1/32" = 1'-0"



HALF EAST ELEVATION SCALE: 1/16" = 1'-0"

HALF SECTION A-A SCALE: 1/16" = 1'-0"



WEST ELEVATION SCALE: 1/16" = 1'-0"

Revision	Date	Brief	By

Prepared by ROBERT L. HENDRICKS & ASSOCIATES
Traced by
Checked by AIR
Supervisor SDRAMS
Group Chief
Chief Draw.
Des. Engr.
Proj. Mgr.
Design Mgr.

Sheet 3 of 44 sheets
paying specification
NO. 16232
May 12034

NAVY DEPARTMENT · BUREAU OF YARDS & DOCKS

NAVAL AIR TEST CENTER
PATUXENT RIVER, MD.

ELECTRONICS TEST HANGAR

ELEVATIONS, SECTIONS, AND ROOF PLAN

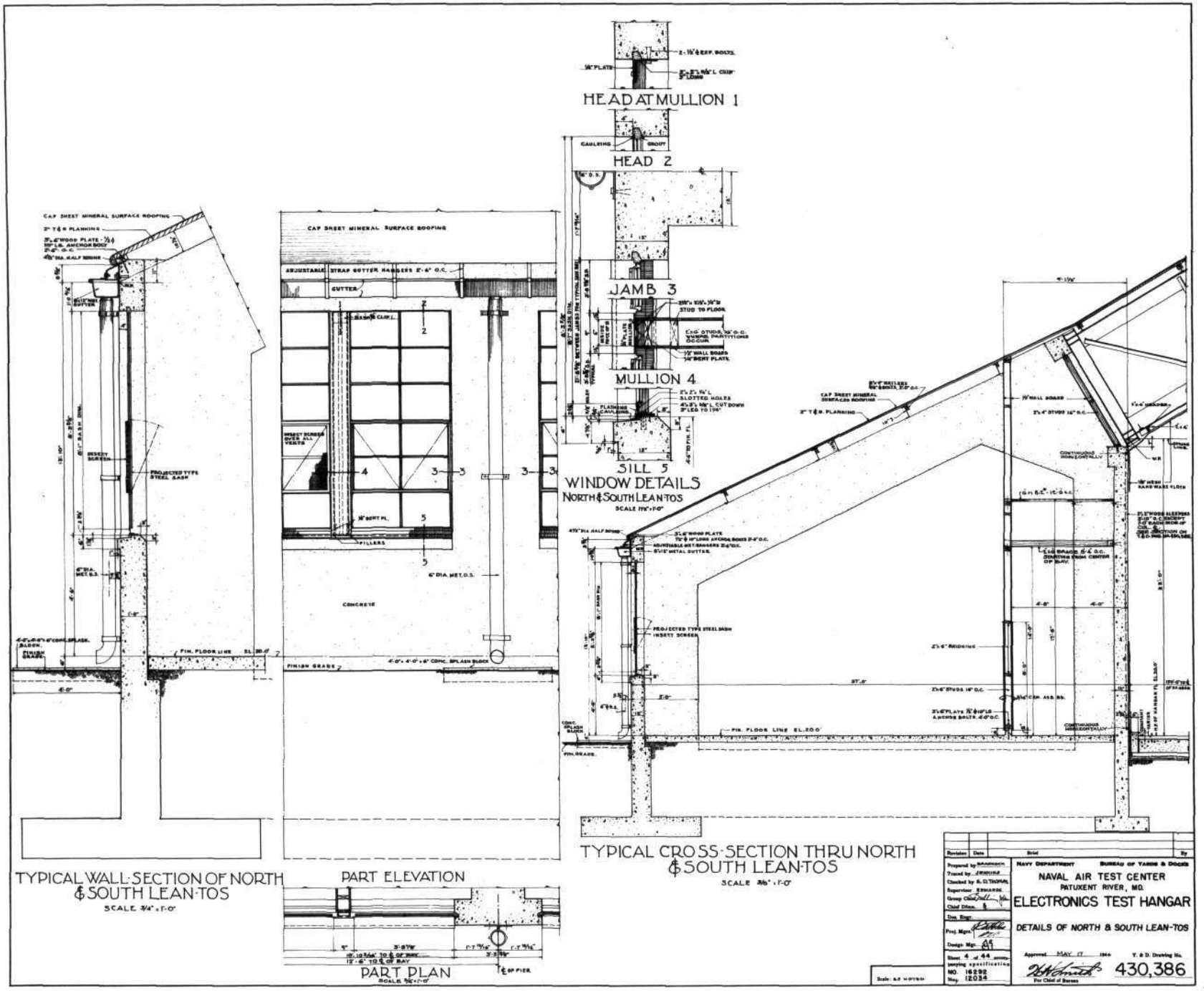
Approved MAY 17 1946
Y. & D. Drawing No.
430,385

Scale: As Noted

515-45-496

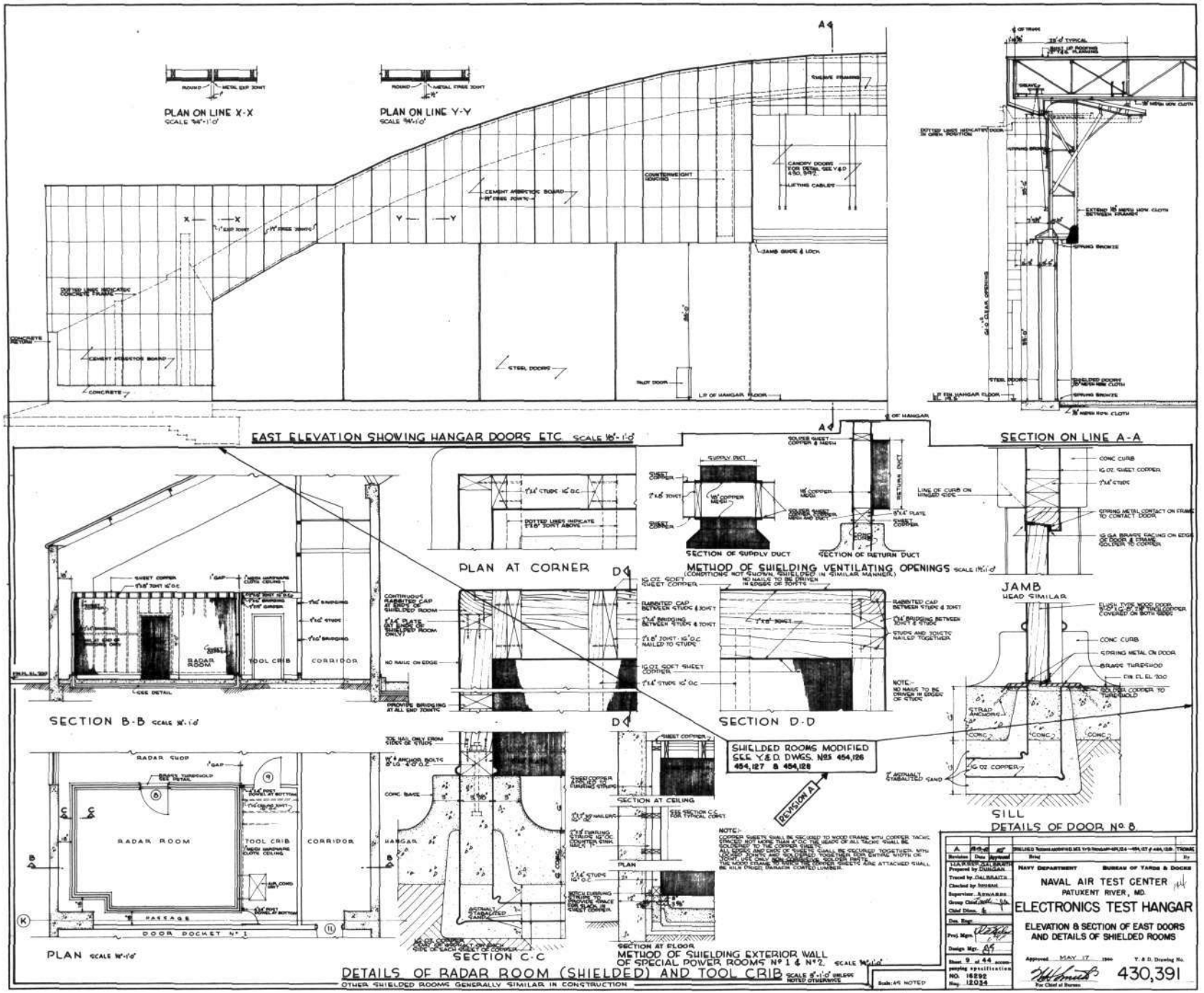
MIHP No. SM-620
Electronics Test Shielded Hangar 144, Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2020
Negative @ NAS Patuxent River, Patuxent River, Maryland
Bureau of Yards and Docks Drawing No. 430,385. "Electronics Test Hangar: Elevations, Sections, and Roof Plan." May 17, 1946. Original on file, Public Works Department, NAS Patuxent River, Maryland.

28 of 30


HEAD AT MULLION 1
HEAD 2
JAMB 3
MULLION 4
SILL 5
WINDOW DETAILS
NORTH & SOUTH LEAN-TOS
SCALE 1½" = 1'-0"
CAP SHEET MINERAL SURFACE ROOFING
2" T & G PLANKING
ADJUSTABLE STRAP GUTTER HANGERS 2'-6" O.C.
GUTTER
PROJECTED TYPE STEEL SASH
INSECT SCREEN
FIN. FLOOR LINE EL. 20.0'
FINISH GRADE
4'-0" x 4'-0" x 8" CONC. SPLASH BLOCK
CONCRETE
FILLERS
6" DIA. MET. D.S.
TYPICAL WALL SECTION OF NORTH & SOUTH LEAN-TOS
SCALE ¾" = 1'-0"
PART ELEVATION
PART PLAN
SCALE ⅛" = 1'-0"
TYPICAL CROSS-SECTION THRU NORTH & SOUTH LEAN-TOS
SCALE ⅜" = 1'-0"
NAVY DEPARTMENT
BUREAU OF YARDS & DOCKS
NAVAL AIR TEST CENTER
PATUXENT RIVER, MD.
ELECTRONICS TEST HANGAR
DETAILS OF NORTH & SOUTH LEAN-TOS
Approved MAY 17 1944
Y. & D. Drawing No.
430,386
515-45-497

MIHP No. SM-620
Electronics Test Shielded Hangar 144, Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Bureau of Yards and Docks Drawing No. 430,386. "Electronics Test Hangar: Details of North & South Lean-Tos." May 17, 1946. Original on file, Public Works Department, NAS Patuxent River, Maryland.

29 of 30


PLAN ON LINE X-X
PLAN ON LINE Y-Y
EAST ELEVATION SHOWING HANGAR DOORS ETC. SCALE 1/8"-1'0"
SECTION ON LINE A-A
PLAN AT CORNER
SECTION OF SUPPLY DUCT
SECTION OF RETURN DUCT
METHOD OF SHIELDING VENTILATING OPENINGS (CONDITIONS NOT SHOWN, SHIELDED IN SIMILAR MANNER) SCALE 1"=1'0"
JAMB
HEAD SIMILAR
SILL
DETAILS OF DOOR Nº 8
SECTION B-B SCALE 1/4"-1'0"
SECTION D-D
SHIELDED ROOMS MODIFIED SEE Y&D DWGS. NOS 454,126 454,127 & 454,128
REVISION A
PLAN SCALE 1/4"-1'0"
SECTION C-C
SECTION AT CEILING
SECTION AT FLOOR
METHOD OF SHIELDING EXTERIOR WALL OF SPECIAL POWER ROOMS Nº 1 & Nº 2. SCALE 1/4"-1'0"
DETAILS OF RADAR ROOM (SHIELDED) AND TOOL CRIB SCALE 1/4"-1'0" UNLESS NOTED OTHERWISE
OTHER SHIELDED ROOMS GENERALLY SIMILAR IN CONSTRUCTION
RADAR ROOM
TOOL CRIB
CORRIDOR
RADAR SHOP
PASSAGE
DOOR DOCKET Nº 1
NAVY DEPARTMENT BUREAU OF YARDS & DOCKS
NAVAL AIR TEST CENTER
PATUXENT RIVER, MD.
ELECTRONICS TEST HANGAR
ELEVATION & SECTION OF EAST DOORS AND DETAILS OF SHIELDED ROOMS
Approved MAY 17 1950
Y. & D. Drawing No. 430,391
Chief of Bureau
Prepared by DUNCAN
Traced by CALBRAITH
Checked by SHIRAH
Supervisor EDWARDS
Group Chief
Chief Draftsman
Design Mgr.
Sheet 9 of 44 accompanying specification No. 16292
Req. 12034
Scale: AS NOTED

515-45-502

MIHP No. SM-620
Electronics Test Shielded Hangar 144, Naval Air Station Patuxent River
St. Mary's County, Maryland
Rob Tucher, March 2000
Negative @ NAS Patuxent River, Patuxent River, Maryland
Bureau of Yards and Docks Drawing No. 430,391. "Electronics Test Hangar: Elevation & Section of East Doors and Details of Shielded Rooms." May 17, 1946. Original on file, Public Works Department, Naval Air Station Patuxent River, Maryland.

30 of 30